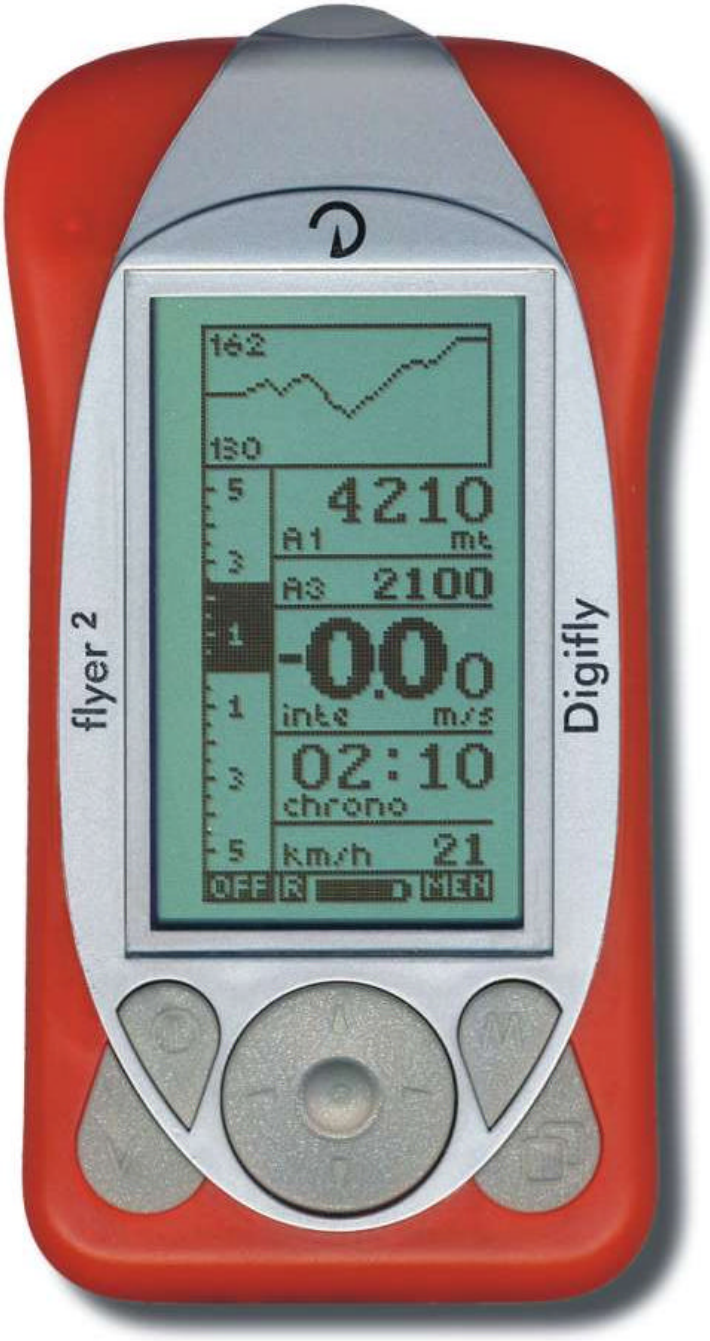
USER MANUAL

Digifly



flyer 2

Rev. 1.2 Firmware 28

Congratulations
Thank you for choosing Digifly!
You have purchased a high technology instrument designed expressly for free flight. The multiple functions and flight data it provides effectively make this an on board computer. Learning to use this instrument will make your flying easier in terms of performance and safety. It will enable you to improve your flying technique and make piloting decisions more quickly, thanks to the comprehensive flight information that is provided. This may be reinforced with the ability to download and analyze your flight data afterwards. Our designers can foresee future software developments, so the software at the heart of this instrument can be updated at any time via the Internet using the optional Digifly PC cable.

Digifly International Guarantee
Dear Customer,
Thank you for purchasing this Digifly product which has been designed and manufactured to the highest quality standards. Digifly warrants this product to be free from defects in materials and workmanship for 3 years from the date of purchase.

The Digifly guarantee applies provided the product is handled properly for its intended use, in accordance with its operating instructions and upon presentation of the original invoice or cash receipt, indicating the date of purchase, dealer's name, model and serial number of the instrument. The customer is however, responsible for any transportation costs. The unit must be securely packaged for return.

The Digifly guarantee may not apply if:
- The documents have been altered in any way or made illegible;
- Repairs or product modifications and alterations have been executed by unauthorized person or service;
- Damage is caused by accidents including but not limited to lightning, water or fire, misuse or neglect.

Digifly assumes no responsibility for special, incidental, punitive or consequential damages, or loss of use. If your Digifly product is not working correctly or is defective, please contact your Digifly dealer. In order to avoid unnecessary inconvenience, we advise you to read the operating instructions carefully before contacting your dealer.

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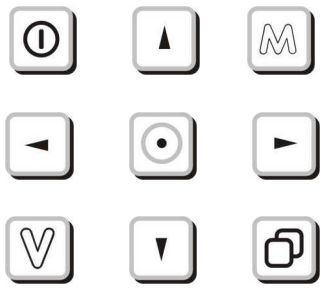
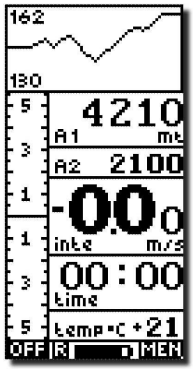
Standard and Optional Accessories

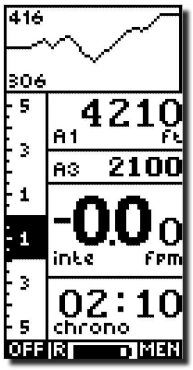
The Flyer 2 has the following accessories as standard:
Protective Case
Leg Strap
One AA Battery

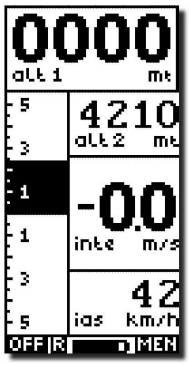
Optional accessories:
PC cable to allow download of flight data & to obtain software updates from the Internet.

1. Keyboard and Display









Display 1

Full display of:
Graphic altimeter
Analog vario
Altimeter A1
Altimeter A2/A3
Integrator vario
2 Multifunction displays:
- Chrono, time
- air speed, temp., barometer

Display 2

Display 2 with:
Graphic altimeter
Analog vario
Altimeter A1
Altimeter A2/A3
Integrator vario
Multifunction display:
Chrono, time, air speed, temp., barometer

Display 3

Simple display (large numerals)
Digital altimeter A1
Analog vario
Altimeter A2/A3
Integrator vario
Multifunction display:
Chrono, time, air speed, temp., barometer

1.1 Power On / Off

To switch on the Flyer 2, press the key at least for 4 seconds.

To switch off the Flyer 2, press the key at least for 4 seconds.

1.2 Normal / Long Key Pressure

The key pressure used on the Flyer 2 influences the functions available.
For a long key pressure, you must keep the button pressed for 2 seconds.
For a normal key pressure, the button must be pressed for less than a second.
When not specified, the pressure has to be considered as a normal pressure.

1.3 Display Adjustment

To change the contrast of the LCD display, press the arrow keys , (long pressure).

1.4 Menu Navigation / Setup

To go to the main menu press the M key (function “MENU”).

To return to instrument’s main display, press the ⏻ key (function “ESC”).

List of options that appear:

Altimeter	(Altimeter Settings – see Section 2.2)
Unit	(Unit of Measure Settings – see Section 3)
Log Book	(Flight Data – see Section 4)
Link	(PC Communication Options – see Section 5)
Set Up	(Set Instrument’s Parameters – see Section 7)

To select the sub menus, move up and down using the arrow keys ▲, ▼, and to confirm, press the M key (function “ENT”).

How to change parameters and settings:

Select the parameter you want to change, move up and down with the arrow ▲, ▼ keys.

Press the M key (function “EDIT”) to go to the edit mode.

To change the selected parameter’s values use the arrow keys ▲, ▼ and confirm with the M key (function “SAVE”) or leave without saving with the ⏻ key (function “ESC”).

2 Instruments

2.1 Graphic Altimeter

This is a live plot of your altitude against time, it scrolls whilst you are flying. It will help you to see how you are climbing or turning in a thermal. It is also very useful in weak conditions in which it is important to achieve flatter turns on your glider.

The scales on the graphic altimeter can be changed using the SET UP Menu (setup \ n.19 barx) and (setup \ n.20 bary).

2.2 Altimeters

3 barometric altimeters are shown.

To zero the displayed altimeter (only A2 or A3) press the key (long pressure).

All 3 altimeters can be adjusted.
How to adjust altimeters.

Go to Altimeter menu “ALTIMETER”
To select which altimeter (A1, A2, A3) you want to adjust, move up and down using the arrow keys , and press the key (function “EDIT”).

To adjust the altimeter value use the arrow keys and confirm with the key (function “SAVE”) or leave without saving with the key (function “ESC”).

In menu “ALTIMETER” to set again all three altimeter to standard parameter (1.013,02 mb), press **key** (long pressure). A confirmation yes/no is requested.

2.3 Variometers

2.3.1 Superfast Vario

The Flyer 2 has a very fast pressure sensor and an excellent data acquisition system that allows the instrument to perform as a very fast and accurate vario (updated 20 times a second).

To adjust superfast vario value use the arrow keys (default parameter 35).

2.3.2 Intellivario

This is a revolutionary system designed by Digifly which is based on the use of a sophisticated digital filters. Is immune to radio interference. All the variometric functions are subject to these filters.

2.3.3 Analog Vario

This shows the instantaneous vario reading. This information is shown on the analogue display on the left of the screen by a bar graph, indicating lift or sink.

Pressing the key (long pressure), the vario scale can be adjusted to display a 1, 2, 4, 6, 8, or 10 m/s scale.

2.3.4 Integrator Vario

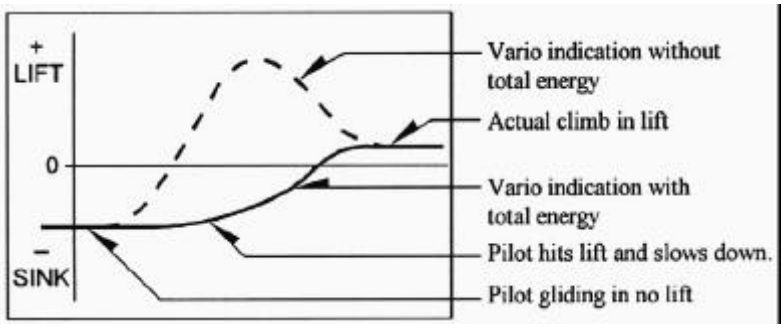
This shows the integrated (average) vario data on the screen. Or rather, a slowed down version of the instantaneous reading. This value is adjustable as it can be delayed or immediate. If you set it to a low value, its value will be close to the instantaneous reading. Normally this is the most common setting. It can also be used for example to see if the rate of lift or sink is improving or getting worse. If the integrator vario reading over a number of seconds is higher than the actual reading, it means that you are doing worse than before. You can use it to help you find the core of the thermal. You can change the integration interval by setting parameter (setup \ n. 6 inte) between 0 and 60 seconds.

2.3.5 Acoustic Vario

Indicates the instantaneous values of the vario with a modulated tone. The volume is adjustable over three levels pressing the key. You can set the threshold level for lift, (setup \ n.1 v-up), and for sink,

(setup \ n.2 v-dw).
To change the vario tone based on your personal preference or the weather conditions adjust parameter:
- acoustic vario tone modulation (setup \ n.3 soun).
- acoustic vario pitch (setup \ n. 4 pitc)
- acoustic vario duration (setup \ n. 5 dura)

2.3.6 Total Energy Compensation



This calculates the rate of change of atmospheric pressure and displays this as a change of altitude; but if you slow down in flight, you have a change of pressure, so a "non-compensated" vario would register this as lift which is due to a change in airspeed (kinetic energy). Now, if you are flying quite fast and slow down when you enter a thermal, the vario reading gets a little difficult to interpret, because part of the lift reading is due to slowing down, and part is due to lift from the thermal. With total energy compensation, the part of lift due to the change in velocity is eliminated, allowing you to identify "real" thermals.
To determine the correct total energy compensation value, you should fly in calm air conditions and slow down as if you are entering a thermal. If the vario shows a change in lift, you have to increase the value of (setup \ n. 8 tec) and then try again until the change in velocity doesn't record lift. A typical value for hang gliders is 65. Setting this value to zero deactivates the compensation. To use this function, you must have the optional air speed probe connected.

2.3 Air Speed

To use this function you must have the optional air speed probe connected.
It is possible to adjust the stall alarm visual and acoustic via parameter (setup \ n.7 stal).
You can recalibrate the air speed probe (setup \ n.9 kias), indicating an adjustment factor (in %) of the air speed probe (100%=no adjustment, 110%=increase , 90%=decrease).

Note: The wrong use of this function makes the readings on the instrument less accurate.

Press the ► key to select the air speed indication in the multi function display.

2.4 Barometer

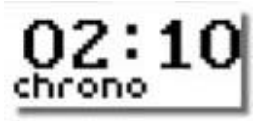
To display the barometer function on the multifunction display, press the ► key.
To recalibrate the barometer value go to (setup\ n. 10 kbar).

Note: The wrong use of this function may create less accurate readings of the barometer & altimeters.

2.5 Thermometer

To display the thermometer function on the multifunction display, press the ► key .

2.6 Time / Chrono



To display the time/chrono functions on the multifunction display, press the ◄ key .

To zero the displayed chrono, press the ⧉ key (long pressure).
To adjust the Date and Time go (setup\ n.11 hour), (setup\ n.12 min), (setup\ n.13 day), (setup\ n.14 month), (setup\ n.15 year).

2.7 Battery Indicator

The Flyer 2 is supplied with one alkaline AA 1.5V battery as standard.
The battery life is approximately 200 hours. The battery state is monitored by an internal voltmeter (see battery icon) that indicates remaining battery life.
Is possible to insert a rechargeable 1.2V AA battery. In this case the user has to remove and recharge the battery with its own external recharger (not supplied by Digifly).
Note: The battery icon starts at 100% only using a standard alkaline AA 1.5V battery.
Battery life can be influenced by use in extreme conditions such as cold and humidity, which reduces the life of the battery.
The "Low bat" warning appears when there is less than 20 hours of battery life remaining.
Note: To avoid having to reset the clock after changing the battery, carefully insert a new battery in less than 60 seconds.

2.8 Pilot Name

After turning your instrument on, the pilot name is shown after the firmware version currently installed.
To set the pilot name go (setup\ n.21 pilo).

2.9 Language

To change the operating language that the instrument uses go (setup\ n.22 lang).

3 Unit of Measure

It is possible to change the units of measure of the altimeters and variometers (meters or feet), air speed (km/h or mph) and temperature (Celsius or Fahrenheit degrees).
Go to (unit \ alti), (unit \ ias), (unit \ temp).

4 Log Book

Flight data can be recorded (up to 50 flights).
Every flight recorded includes the following information:

- Take off date and time, duration of flight and total gain of altitude.
- Minimum and maximum values of altimeter A1, vario and air speed.

Go to Log book menu “LOG BOOK”
A list of all recorded flights with take off date and time is displayed. First flight is latest one.

To select which flight you want to display, move up and down using the arrow keys and press the key (function “ENT”).

To scroll in to others flight use the arrow keys .

Press key (function “ESC”) to go back to previous menu.

AUTOMATIC START RECORD MODE
As standard the flight recorder is in automatic start record mode (setup\ n.16 autr).
In the automatic start record mode, the recorder will start on take off provided there is a change in height of 2 meters in less then 4 seconds). The flight recorder will stop when the instrument is turned off.
In the automatic start record mode it is possible to change these two parameters. The change in meters (setup\ n.17 r-mt) and seconds (setup\ n.18 r-ti) required for the Flyer 2 to automatically start recording a flight.

ALWAYS RECORD MODE
In the always records mode (setup\ n.16 autr) the flight recorder starts recording when the instrument is turned on and stops when the instrument is turned off.

MANUAL RECORD MODE
In the manual record mode (setup\ n.16 autr) you may manually start and stop the flight recorder by pressing the key (long pressure).

To cancel all flights. In log book menu, press key (long pressure).
A confirmation yes/no is requested.

5 PC Link

The software on your Flyer 2 (firmware) can be updated as new releases are made available by Digifly. This will allow your flyer 2 to be kept up to date with new functions and improvements.

Software may be downloaded from the Digifly web site & installed using the optional PC cable.

In the menu PC link is also possible to download your flight data to your PC.

6 Technical Features

Graphic altimeter
3 Altimeters from –9999 to + 19999 mt (from –9999 to 29527 ft) with adjustable QNH
Pressure adjustment on each altimeter
Superfast vario
Vario with dynamic filter ' IntelliVario'
Adjustable vario sensitivity
Acoustic vario with adjustable levels, volume and tone
Analogue vario +/- 12 m/s (2400 ft/min)
Digital vario +/- 25 m/s (5000 ft/min)
Vario integrator adjustable 0 to 60 sec
Total energy compensation (with optional air speed probe)
Input for optional air speed probe 150 km/h (93 mph) with user calibration
Adjustable stall alarm visual and acoustic (with optional air speed probe)
Barometer (range 300 to 1200 mB) with user calibration
Thermometer (range -30°C to +70°C) (range -22 °F to +158 °F)
Constant battery monitoring
Date and time, chronometer, flight timer
Flight recorder up to 50 flights
Auto start recorder function
Adjustable units of measure
High resolution graphic LCD display 128 x 64 pixels
Contrast adjustment
PC connection (high speed up to 115kbps)
Updateable software from Internet using optional PC cable
Only one AA battery required (1.2V or 1.5V)
AA rechargeable battery compatibility
Battery life 200 hours
Dimensions (H x L x D) 144mm x 72mm x 25mm
Weight (with battery) 145g
The instrument is supplied with: leg strap and protective case & AA battery
3 years warranty

7 Set Up Menu (parameter table)

The following is a list of parameters that can be adjusted.
For each parameter you can see the range of values, factory setting (default) and the unit of measure.

Menu parameter -> SETUP

n	Name	Description	Range	Default	Unit
1	v-up	vario lift setting	0 - 25	0.05	m/s
2	v-dw	vario sink setting	0 - 25	3.5	m/s
3	soun	vario tone	low/med/high/ultra	ultra	----
4	pitc	pitch acoustic vario	20 - 80	50	%
5	dura	acoustic vario duration	low/med/high	high	----
6	inte	vario integrator	0 - 60	0	sec
7	stal	stall alarm level	0 - 150	0	km/h
8	tec	total energy compen.	0 - 100	0	%
9	kias	air speed calibration	50 - 200	100	%
10	kbar	barometer calibration	+/- 200	0	mB
11	hour	hours	0 - 23	----	hour
12	min	minutes	0 - 59	----	minute
13	day	day	1 – 31	----	day
14	month	month	1 – 12	----	month
15	year	year	0 – 99	----	year
16	autr	autorecorder	manual/always/auto	auto	----
17	r-ds	autorec. meters	1 - 30	2	mt
18	r-ti	autorec. seconds	1 - 30	4	sec/pixels
19	barx	graphic altimeter x	0.3 - 60	1	sec/pixels
20	bary	graphic altimeter y	0.3 - 100	0.3	mt
21	pilo	pilot name	6 letters	----	----
22	lang	language	IT/UK/D/F/E	UK	----

Menu parameter -> UNIT

n	Name	Description	Options	Default
1	alti	altimeter - vario	mt or ft	mt
2	ias	air speed	km/h or mph	km/h
3	temp	temperature	°C or °F	°C